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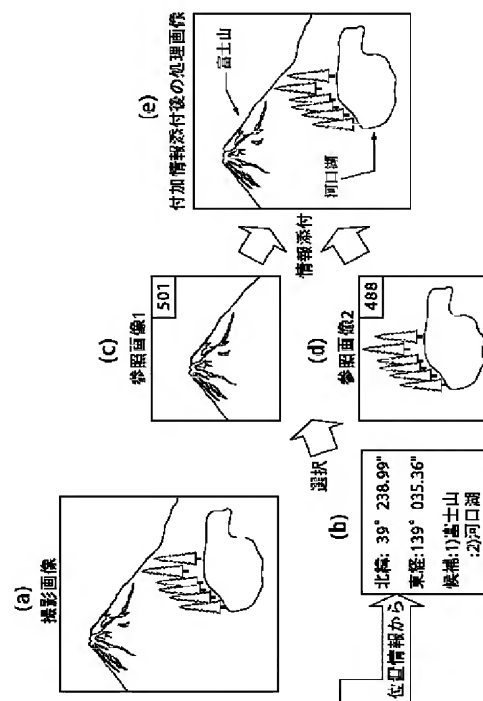
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(54) 【発明の名称】 画像処理装置、画像処理方法および記憶媒体

(57) 【要約】

【課題】 ユーザの使い勝手をさらに向上させることが可能な画像処理装置、画像処理方法および記憶媒体を提供する。

【解決手段】 撮影時に記録した位置情報から撮影場所を決定し、付加情報データベースから撮影場所の付近にある複数の観光地の情報を、撮影対象の参照データの候補としてリストアップする。たとえば、位置撮影データに近い観光地情報として、「富士山」、「河口湖」、「山中湖」のようにいくつかの撮影場所近辺の観光地情報の候補をリストアップする。ユーザは、この中から目的とする観光地情報を選択すると、選択された撮影対象の観光地情報からこれに関する参照画像を検索し、この参照画像と撮影画像とをパターンマッチングすることにより、(e)に示すように、撮影画像データに付加情報を上書き合成して印刷する。



【特許請求の範囲】

【請求項1】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、
前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手する付加情報入手手段と、
前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、
該加工された画像情報および付加情報を外部の画像形成装置に出力する出力手段とを有することを特徴とする画像処理装置。

【請求項2】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、
前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手する付加情報入手手段と、
前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、
該加工された画像情報および付加情報を印刷する印刷手段とを有することを特徴とする画像処理装置。

【請求項3】 前記付加情報入手手段によって入手された複数の付加情報の候補を表示する表示手段と、
ユーザが、該表示された複数の付加情報の候補から前記印刷に用いる付加情報を選択するための選択手段とを有することを特徴とする請求項1または2のいずれかに記載の画像処理装置。

【請求項4】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、
ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出する送出手段と、
該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された

付加情報を受信する付加情報受信手段と、
前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、
該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力する出力手段とを有することを特徴とする画像処理装置。

【請求項5】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、
ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出する送出手段と、
該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、
前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、
該加工された画像情報および付加情報を外部の画像形成装置に出力する出力手段とを有することを特徴とする画像処理装置。

【請求項6】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、
ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出する送出手段と、
該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、
前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、
該加工された画像情報および付加情報を印刷する印刷手段とを有することを特徴とする画像処理装置。

【請求項7】 前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情

報の候補を表示する表示手段と、ユーザが、該表示された複数の付加情報の候補から前記印刷に用いる付加情報を選択するための選択手段とを有することを特徴とする請求項4～6のいずれかに記載の画像処理装置。

【請求項8】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする請求項1～7のいずれかに記載の画像処理装置。

【請求項9】 前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であることを特徴とする請求項8に記載の画像処理装置。

【請求項10】 前記緯度経度測定手段は、人工衛星を用いて緯度および経度からなる情報を計測することを特徴とする請求項9に記載の画像処理装置。

【請求項11】 前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする請求項8に記載の画像処理装置。

【請求項12】 前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする請求項8～11のいずれかに記載の画像処理装置。

【請求項13】 前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関する画像情報であることを特徴とする請求項8～12のいずれかに記載の画像処理装置。

【請求項14】 前記別の画像情報は、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時情報のうち少なくとも1つが合成されたものであることを特徴とする請求項8～13のいずれかに記載の画像処理装置。

【請求項15】 前記別の画像情報は、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする請求項8～14のいずれかに記載の画像処理装置。

【請求項16】 前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報であることを特徴とする請求項15に記載の画像処理装置。

【請求項17】 前記文字情報は、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする請求項15に記載の画像処理装置。

【請求項18】 前記撮影情報は、撮影位置情報を含み、

前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、

前記付加情報入手手段は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、前記加工手段は、前記読み取り手段によって読み取られた画像情報と前記入手された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項1または2のいずれかに記載の画像処理装置。

【請求項19】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、

前記加工手段は、前記読み取り手段によって読み取られた画像情報と前記付加情報受信手段によって受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項4～6のいずれかに記載の画像処理装置。

【請求項20】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力することを特徴とする画像処理方法。

【請求項21】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、

該加工された画像情報および付加情報を印刷手段により印刷することを特徴とする画像処理方法。

【請求項22】 前記入手された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする請求項20または21のいずれかに記載の画像処理方法。

【請求項23】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信し、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力することを特徴とする画像処理方法。

【請求項24】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力することを特徴とする画像処理方法。

【請求項25】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であ

って、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷することを特徴とする画像処理方法。

【請求項26】 前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする請求項23～25のいずれかに記載の画像処理方法。

【請求項27】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする請求項20～26のいずれかに記載の画像処理方法。

【請求項28】 前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であることを特徴とする請求項27に記載の画像処理方法。

【請求項29】 前記緯度経度測定手段は、人工衛星を用いて緯度および経度からなる情報を計測することを特徴とする請求項28に記載の画像処理方法。

【請求項30】 前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする請求項28に記載の画像処理方法。

【請求項31】 前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする請求項27～30のいずれかに記載の画像処理方法。

【請求項32】 前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関する画像情報であることを特徴とする請求項27～31のいずれかに記載の画像処理方法。

【請求項33】 前記別の画像情報は、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時

情報のうち少なくとも1つが合成されたものであることを特徴とする請求項27～32のいずれかに記載の画像処理方法。

【請求項34】 前記別の画像情報は、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする請求項27～33のいずれかに記載の画像処理方法。

【請求項35】 前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報であることを特徴とする請求項34に記載の画像処理方法。

【請求項36】 前記文字情報は、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする請求項34に記載の画像処理方法。

【請求項37】 前記撮影情報は、撮影位置情報を含み、
前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、
前記読み取られた撮影情報に関連する付加情報の候補を入手し、
前記読み取られた画像情報と前記入手された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項20または21のいずれかに記載の画像処理方法。

【請求項38】 前記撮影情報は、撮影位置情報を含み、
前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、
前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、
前記読み取られた画像情報と前記受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項23～25のいずれかに記載の画像処理方法。

【請求項39】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情

報に関連する付加情報を検索して入手し、
前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、
該加工された画像情報および付加情報を外部の画像形成装置に出力する画像処理方法を含む、コンピュータが実現できるプログラムを格納した記憶媒体。

【請求項40】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、
前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、
該加工された画像情報および付加情報を印刷手段により印刷する画像処理方法を含む、コンピュータが実現できるプログラムを格納した記憶媒体。

【請求項41】 前記入手された複数の付加情報の候補を表示手段に表示させ、
該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする請求項39または40のいずれかに記載の記憶媒体。

【請求項42】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、
該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信し、
前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、
該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力する画像処理方法を含む、コンピュータが実現できるプログラムを格納した記憶媒体。

【請求項43】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2

の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力する画像処理方法を含む、コンピュータが実現できるプログラムを格納した記憶媒体。

【請求項44】 外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷する画像処理方法を含む、コンピュータが実現できるプログラムを格納した記憶媒体。

【請求項45】 前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする請求項42～44のいずれかに記載の記憶媒体。

【請求項46】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする請求項39～45のいずれかに記載の記憶媒体。

【請求項47】 前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であることを特徴とする請求項46に記載の記憶媒体。

【請求項48】 前記緯度経度測定手段は、人工衛星を

用いて緯度および経度からなる情報を計測することを特徴とする請求項47に記載の記憶媒体。

【請求項49】 前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする請求項47に記載の記憶媒体。

【請求項50】 前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする請求項46～49のいずれかに記載の記憶媒体。

【請求項51】 前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関する画像情報であることを特徴とする請求項46～50のいずれかに記載の記憶媒体。

【請求項52】 前記別の画像情報は、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時情報のうち少なくとも1つが合成されたものであることを特徴とする請求項46～51のいずれかに記載の記憶媒体。

【請求項53】 前記別の画像情報は、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする請求項46～52のいずれかに記載の記憶媒体。

【請求項54】 前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報であることを特徴とする請求項53に記載の記憶媒体。

【請求項55】 前記文字情報は、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする請求項34に記載の記憶媒体。

【請求項56】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記読み取られた撮影情報に関連する付加情報の候補を入手し、前記読み取られた画像情報と前記入手された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項39または40のいずれかに記載の記憶媒体。

【請求項57】 前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の

撮影対象の内容を示す内容情報とからなり、前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、前記読み取られた画像情報と前記受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする請求項42～44のいずれかに記載の記憶媒体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、画像情報とともにその撮影情報を記憶媒体に記憶できる外部の撮影装置で撮影して記憶した画像情報と撮影情報を当該記憶媒体から読み出し、該読み出された画像情報に対して、当該読み出された撮影情報に基づいた処理を施す画像処理装置、画像処理方法および記憶媒体に関する。

【0002】

【従来の技術】近年、個人や専門家を問わず多くの人々が各種カメラを使用する機会が多くなってきた。カメラを用いる情報記録写真装置に関する従来技術としては、銀塩カメラやデジタルカメラにおいて、風景や人物像等の撮影画像に加えて、撮影状態（撮影環境）を示す撮影情報をフィルムやその他の媒体に記録するものが存在する。

【0003】一方、カーナビゲーションの普及に伴い、衛星により目的物の現在の位置を計測するシステム、すなわちグローバル・ポジショニング・システム（GPS）が一般に普及してきた。

【0004】そして、GPSから得られた撮影位置データを入手し、取り扱うシステムの開発も盛んに行われている。

【0005】この二つの技術を組み合わせた画像処理装置としては、スチールカメラにGPS装置を設け、GPS装置から得られた位置情報、たとえば緯度経度情報を撮影画像データとともにフロッピー（登録商標）ディスク等の記憶媒体に記録し、プリント時に撮影画像データとともに緯度経度情報を読み出して、データベースからこの緯度経度情報と一致する撮影地名を検索し特定するものが、たとえば特開平8-233565号公報に記載されている。

【0006】また、GPSによる測位システム装置を設け、カメラの撮影位置に関する情報を記録できるカメラも各種提案されている。

【0007】さらに、従来の印刷装置としては、カメラで撮影した撮影画像データを印画紙に転写するものや、撮影した撮影画像データをパソコン上の特定のツールで

編集し、文章や絵として印刷するものがあった。

【0008】

【発明が解決しようとする課題】しかし、上記従来の画像処理装置では、撮影した画像を見たり、撮影情報に含まれる撮影位置に関する情報を電子地図と対比させてモニタ上に並べて表示したり、撮影情報に含まれる撮影位置に関する情報を用いて撮影場所を特定したりするものはすでに提案されているが、カメラの操作者やユーザが、実際に撮影画像を使用する際に、該撮影画像に関連した付加情報を検索し、この検索された付加情報を当該撮影画像を整理整頓するために使用したり、この検索された付加情報を当該撮影画像と並べて印刷するようにしたものは提案されておらず、この点にまだ改良の余地があった。

【0009】本発明は、この点に着目してなされたものであり、ユーザの使い勝手をさらに向上させることが可能な画像処理装置、画像処理方法および記憶媒体を提供することを目的とする。

【0010】

【課題を解決するための手段】上記目的を達成するため、請求項1に記載の画像処理装置は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手する付加情報入手手段と、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、該加工された画像情報および付加情報を外部の画像形成装置に出力する出力手段とを有することを特徴とする。

【0011】また、請求項2に記載の画像処理装置は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手する付加情報入手手段と、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、該加工された画像情報および付加情報を印刷する印刷手段とを有することを特徴とする。

【0012】好ましくは、前記付加情報入手手段によって入手された複数の付加情報の候補を表示する表示手段と、ユーザが、該表示された複数の付加情報の候補から前記印刷に用いる付加情報を選択するための選択手段とを有することを特徴とする。

【0013】上記目的を達成するため、請求項4に記載の画像処理装置は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出する送出手段と、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力する出力手段とを有することを特徴とする。

【0014】また、請求項5に記載の画像処理装置は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出する送出手段と、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、該加工された画像情報および付加情報を外部の画像形成装置に出力する出力手段とを有することを特徴とする。

【0015】さらに、請求項6に記載の画像処理装置は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取る読み取り手段と、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取

られた撮影情報を送出する送出手段と、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工する加工手段と、該加工された画像情報および付加情報を印刷する印刷手段とを有することを特徴とする。

【0016】好ましくは、前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情報の候補を表示する表示手段と、ユーザが、該表示された複数の付加情報の候補から前記印刷に用いる付加情報を選択するための選択手段とを有することを特徴とする。

【0017】また、好ましくは、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする。

【0018】さらに、好ましくは、前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であり、前記緯度経度測定手段は、人工衛星を用いて緯度および経度からなる情報を計測することを特徴とする。

【0019】また、好ましくは、前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする。

【0020】また、さらに好ましくは、前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする。

【0021】また、好ましくは、前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関するもの、または、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時情報のうち少なくとも1つが合成されたもの、または、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする。

【0022】さらに、好ましくは、前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報、または、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする。

【0023】また、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報

中の撮影対象の内容を示す内容情報とからなり、前記付加情報入手手段は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、前記加工手段は、前記読み取り手段によって読み取られた画像情報と前記入手された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0024】さらに、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、前記加工手段は、前記読み取り手段によって読み取られた画像情報と前記付加情報受信手段によって受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0025】上記目的を達成するため、請求項20に記載の画像処理方法は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力することを特徴とする。

【0026】また、請求項21に記載の画像処理方法は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷することを特徴とする。

【0027】好ましくは、前記入手された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択し

た、前記印刷に用いる付加情報を入力することを特徴とする。

【0028】上記目的を達成するため、請求項23に記載の画像処理方法は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信し、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力することを特徴とする。

【0029】また、請求項24に記載の画像処理方法は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力することを特徴とする。

【0030】さらに、請求項25に記載の画像処理方法は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するものに対して、該ネットワークを介して、前記読み取られた撮影情

報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷することを特徴とする。

【0031】好ましくは、前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする。

【0032】また、好ましくは、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする。

【0033】さらに、好ましくは、前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であり、前記緯度経度測定手段は、人工衛星を用いて緯度および経度からなる情報を計測することを特徴とする。

【0034】また、好ましくは、前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする。

【0035】また、さらに好ましくは、前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする。

【0036】また、好ましくは、前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関するもの、または、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時情報のうち少なくとも1つが合成されたもの、または、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする。

【0037】さらに、好ましくは、前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報、または、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする。

【0038】また、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記読

み取られた撮影情報に関連する付加情報の候補を入手し、前記読み取られた画像情報と前記入手された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0039】さらに、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、前記読み取られた画像情報と前記受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0040】上記目的を達成するため、請求項39に記載の記憶媒体は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力することを特徴とする画像処理方法を含むことを特徴とする。

【0041】また、請求項40に記載の記憶媒体は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、前記読み取られた画像情報および前記入手された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷する画像処理方法を含むことを特徴とする。

【0042】好ましくは、前記入手された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする。

【0043】上記目的を達成するため、請求項42に記載の記憶媒体は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するするものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信し、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を、前記ネットワークを介して接続された画像形成装置に出力する画像処理方法を含むことを特徴とする。

【0044】また、請求項43に記載の記憶媒体は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するするものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を外部の画像形成装置に出力する画像処理方法を含むことを特徴とする。

【0045】さらに、請求項44に記載の記憶媒体は、外部の撮影装置で撮影された複数の画像情報と、該各画像情報それぞれに対応した撮影情報とを記憶した第1の記憶手段から、当該記憶された画像情報と、該画像情報に対応する撮影情報とを読み取り、ネットワークを介して接続された付加情報入手装置であって、前記撮影情報に関連する付加情報を記憶する第2の記憶手段から、前記読み取り手段により読み取られた撮影情報に関連する付加情報を検索して入手し、該入手された付加情報を前記ネットワークを介して送出するするものに対して、該ネットワークを介して、前記読み取られた撮影情報を送出し、該送出された撮影情報に応じて、前記付加情報入手装置により入手され、前記ネットワークを介して送出

された付加情報を受信する付加情報受信手段と、前記読み取られた画像情報および前記受信された付加情報を、同一の用紙上に並べて印刷できるように加工し、該加工された画像情報および付加情報を印刷手段により印刷する画像処理方法を含むことを特徴とする。

【0046】好ましくは、前記付加情報入手装置によって入手され、前記ネットワークを介して受信された複数の付加情報の候補を表示手段に表示させ、該表示された複数の付加情報の候補から、選択手段を用いてユーザが選択した、前記印刷に用いる付加情報を入力することを特徴とする。

【0047】また、好ましくは、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報、または、該画像情報によって示される画像を模擬したイラストを示す画像情報のいずれかであることを特徴とする。

【0048】さらに、好ましくは、前記撮影位置情報は、緯度経度測定手段によって計測された緯度および経度からなる情報であり、前記緯度経度測定手段は、人工衛星を用いて緯度および経度からなる情報を計測することを特徴とする。

【0049】また、好ましくは、前記撮影位置情報は、特定地または特定施設に一意に割り当てられた観光地コードによって指示される情報であることを特徴とする。

【0050】また、さらに好ましくは、前記撮影情報は、さらに、撮影時の撮影方向を示す撮影方向情報、撮影時の前記撮影装置の、撮影対象に対する上下関係を示す上下情報、撮影時の撮影装置の、撮影対象に対する画角を示す画角情報、および、撮影日時を示す日時情報のうち少なくとも1つ以上を含むことを特徴とする。

【0051】また、好ましくは、前記別の画像情報は、前記撮影位置情報によって指示される撮影位置に対応する特定地または特定施設に関するもの、または、当該撮影された画像情報に、前記撮影方向、上下情報、画角情報、日時情報のうち少なくとも1つが合成されたもの、または、当該撮影された画像情報に、その撮影対象に関連する文字情報が付加されたものであることを特徴とする。

【0052】さらに、好ましくは、前記文字情報は、当該撮影画像中の特定地または特定施設の名称を示す情報、または、前記撮影位置情報により指示される撮影位置に関連する特定地または特定施設を説明する情報であることを特徴とする。

【0053】また、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記読み取られた撮影情報に関連する付加情報の候補を入手し、前記読み取られた画像情報と前記入手された付加情

報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0054】さらに、前記撮影情報は、撮影位置情報を含み、前記付加情報は、前記撮影位置情報によって指示される撮影位置で撮影された別の画像情報と、該画像情報中の撮影対象の内容を示す内容情報とからなり、前記付加情報入手装置は、前記読み取り手段により読み取られた撮影情報に関連する付加情報の候補を入手し、該入手された付加情報を前記ネットワークを介して送出し、前記読み取られた画像情報と前記受信された付加情報の候補中の別の画像情報とのパターンマッチングを行い、その結果、前記読み取られた画像情報中に撮影されている画像に一致する別の画像情報が存在する場合には、該別の画像情報に対応する前記内容情報を、前記読み取られた画像情報に付加することを特徴とする。

【0055】

【発明の実施の形態】以下、本発明の実施の形態を図面に基づいて詳細に説明する。

【0056】図1は、本発明の一実施の形態に係る画像処理装置1の概略構成を示すブロック図である。

【0057】同図に示すように、画像処理装置1は、媒体読取部2と、データ分離部3と、指示部4と、画像メモリ5と、付加情報メモリ6と、付加情報データベース7と、システム制御部8と、プリンタI/F部9と、印刷部10とによって構成されている。そして、上記構成要素3～9は、データバス11を介して相互に接続され、データ分離部3には媒体読取部2が接続され、プリンタI/F部9には印刷部10が接続されている。

【0058】なお、本実施の形態では、印刷部10は、画像処理装置1の一構成要素としたが、これに限らず、プリンタI/F部9までを画像処理装置の構成要素とし、印刷部10は、別体の独立した装置としてもよい。

【0059】媒体読取部2は、GPSを搭載したカメラによって記録された撮影画像データと撮影データを記憶した媒体（たとえばメモリスティック）を挿入して、該媒体中のデータを読み取る。

【0060】データ分離部3は、媒体読取部2によって読み取られたデータを、その構成要素である、撮影画像データと、緯度および経度からなる撮影位置情報、撮影方向情報、上下情報、画角情報などの撮影データとに分離する。

【0061】指示部4は、データ分離部3によって分離された撮影画像データの表示や、後述する付加情報データベース7から検索された、撮影画像データと関係のある付加データの表示等、すべての操作を指示する。

【0062】画像メモリ5は、媒体読取部2によって読み取られ、データ分離部3によって分離された撮影画像

データを蓄積する。

【0063】付加情報メモリ6は、データ分離部3によって分離された撮影データを用いて、付加情報データベース7から検索された、撮影画像データと関係のある付加データを蓄積する。

【0064】付加情報データベース7は、撮影画像データと関連のある付加データを、緯度および経度からなる撮影位置情報、撮影方向情報、上下情報、画角情報の項目によりデータベース化して記録する。

【0065】システム制御部8は、データ分離部3、指示部4、画像メモリ5、付加情報メモリ6、付加情報データベース7、および、プリンタI/F部9を制御する。

【0066】プリンタI/F部9は、印刷のために、撮影画像データと付加撮影データを印刷部10に送信する。

【0067】印刷部10は、プリンタI/F部9から送信された印刷データを印刷する。

【0068】このように構成された画像処理装置1が実行する制御処理は、次の通りである。

【0069】すなわち、まず、媒体読取部2により、前記媒体から、該媒体に記憶されている撮影画像データおよび撮影データを読み込む。

【0070】次に、読み取られたデータは、データ分離部3によって、撮影画像データおよび撮影データに分離される。

【0071】次に、分離された撮影画像データは画像メモリ5に蓄積される一方、分離された撮影データはシステム制御部8によって解析される。この解析結果に基づいて、付加情報データベース7から緯度および経度に関連のある付加情報を検索し、この検索して得られた付加情報を付加情報メモリ6に蓄積する。

【0072】次に、蓄積されたデータに基づいて、指示部4は、表示レイアウトを指示するとともに、ユーザに対して確認し、プリンタI/F部9を介して印刷部10にその印刷を指示する。

【0073】図2は、媒体に記憶されるデータのデータフォーマットの一例を示す図である。

【0074】同図において、媒体中のデータは、撮影画像である撮影画像データと、撮影した際の環境や位置、その他の撮影に関するデータからなる撮影データとからなり、一つの撮影画像データと、該撮影画像データに対応する、複数の撮影条件情報からなる撮影データとが一对の組となって構成されている。そして、媒体には、この一对の組のデータが複数組保存される。

【0075】撮影データは、方位、緯度、経度、高度、日時、画角、上下情報などの複数のデータから構成されている。これらのデータは、GPSなどの撮影条件記録システムによって取得される。

【0076】図3は、GPSを用いた位置情報取得シス

テムの構成の一例を示す図である。

【0077】同図に示すように、GPSは、地球の周回軌道に配置された4つの衛星S1～S4から送られてくる電波を受信し、計測点の緯度、経度、高度などを測定するシステム機器である。カメラにGPS用受信機と各測定装置を搭載することにより、撮影時の位置情報、方向情報、上下情報、画角情報などを取得できる。取得したデータはカメラ内で撮影時に撮影画像データと組み合わせられ、撮影時の条件として前記媒体に記録される。

【0078】図4は、撮影画像データ撮影用カメラ20の概略構成を示すブロック図である。

【0079】同図に示すように、カメラ20は、撮像部21と、GPSデータ取得部22と、日時取得部23と、方向検出部24と、画像処理部25と、画像メモリ26と、撮像情報処理部27と、システム制御部28と、画角・上下情報取得部29と、媒体書込み部30と、データバス31とによって構成されている。

【0080】撮像部21は、撮影対象を色の三原色であるR（赤）G（緑）B（青）に分解した撮影画像データとして取り込む。このようにして取り込んだ撮影画像データは、画像処理部25でデジタル処理が可能な形式に変換され、画像メモリ26に一旦蓄積される。画像メモリ26には、一枚もしくは複数枚の撮影画像データが蓄積され、ついで媒体書込み部30にデータバス21を介して送信される。

【0081】また、GPSデータ取得部22、日時取得部23、方向検出部24、画角・上下情報取得部29で取得される各情報は、前記撮影条件情報に相当し、各情報は撮像情報処理部27に送信される。

【0082】撮像情報処理部27は、媒体書込み部30に撮影データを転送し記録するために、データ形式を描える。

【0083】媒体書込み部30は、画像処理部25と撮像情報処理部27から送信されてきた各データを、依存関係を明確にしながら媒体に記録する。記録された媒体は、前述のように、画像処理装置1により利用される。

【0084】図5は、画角情報の作用を説明するための図であり、同図に示すように、画角情報の値（画角）が異なれば、同じ位置から同じ方向を撮影した場合でも、撮影される範囲は異なる。

【0085】図6は、上下情報の作用を説明するための図である。

【0086】カメラを操作するユーザの多くは、撮影時にカメラを上下左右に傾け撮影することがあり、同図に示すように、カメラの傾き（上下情報の値）が異なれば、同じ位置、同じ方向を撮影した場合でも、撮影される範囲は異なる。

【0087】画角情報と上下情報は、異なる撮影条件で撮影した撮影画像が同一の対象物を撮影したものであることを特定するために必要な情報である。

【0088】図7は、撮影画像に付加情報を付加して作成された第1の画像例を示す図であり、（a）は、元の撮影画像の一例である、雲に隠れた山の撮影画像を示し、（b）は、作成された第1の画像例を示している。

【0089】元の撮影画像データには、前述したように、その組となる撮影データが存在している。この撮影データは、前記データ分離部3によって、対応する撮影画像データと分離され、分離後の撮影データは、前記システム制御部8によって、解析され、この撮影データを構成する複数の撮影条件情報、すなわち、緯度、経度、日時、方向、上下情報、画角情報などの諸情報が取得される。そして、この取得された複数の撮影条件情報に基づいて、前記付加情報データベース7を検索し、同一の撮影位置から写した参照画像、または、それを模擬したイラストなどの必要な情報を取得する。

【0090】上記（b）の第1の画像例は、このようにして得られた参照画像を示している。この参照画像は、日時情報（夏であるか冬であるか、または、昼であるか夜であるか）、上下情報、画角情報に応じて変化する。

【0091】このような処理を行うことによって、ユーザのニーズに合致し、かつ必要とする付加情報を容易に付加することができる。

【0092】図8は、撮影画像に付加情報を付加して作成された第2の画像例を示す図であり、（a）は、元の撮影画像の一例である、東京タワーの撮影画像を示し、（b）は、作成された第2の画像例を示している。

【0093】上記（b）の第2の画像例は、前記図7と同様に、撮影データを構成する複数の撮影条件情報に基づいて、付加情報データベース7を検索し、撮影画像に関連したテキストデータを収集してレイアウトしている。より具体的には、撮影データを構成する緯度、経度、日時、方向、上下情報、画角情報などの諸情報から撮影対象を特定し、撮影対象に関するテキスト情報を付加情報データベース7から検索し、撮影画像とともにレイアウトし印刷している。

【0094】図9は、撮影画像に付加情報を付加して作成された第3の画像例を示す図であり、（a）は、元の撮影画像の一例である、湖水の撮影画像を示し、（b）は、作成された第3の画像例を示している。

【0095】上記（b）の第2の画像例も、図7および図8と同様に、撮影データを構成する複数の撮影条件情報に基づいて、付加情報データベース7を検索し、撮影画像に関連したイメージデータを収集してレイアウトしている。より具体的には、撮影データを構成する緯度、経度、日時、方向、上下情報、画角情報などの諸情報から撮影対象を特定し、撮影対象に関するイメージ情報と画像情報を付加情報データベース7から検索し、撮影画像とともにレイアウトし印刷している。

【0096】なお、レイアウトは、前記指示部4で確認しながら行う。

【0097】図10は、撮影画像と参照画像との照合から当該撮影画像への添付情報の付加に至る処理の流れを説明するための図であり、(a)は、山と湖を撮影した撮影画像データを示す。

【0098】同図において、まず、撮影時に記録した位置情報から撮影場所を決定する。

【0099】次に、付加情報データベース7から撮影場所の付近にある複数の観光地の情報を、撮影対象の参照データの候補としてリストアップする。たとえば、位置撮影データに近い観光地情報として、「富士山」、「河口湖」、「山中湖」のようにいくつかの撮影場所近辺の観光地情報の候補をリストアップする。ユーザは、この中から目的とする観光地情報を選択する。選択された撮影対象の観光地情報からこれに関する参照画像を検索し、この参照画像と撮影画像とをパターンマッチングすることにより、(e)に示すように、撮影画像データに付加情報を上書き合成して印刷する。

【0100】なお、本実施の形態では、GPSにより位置情報を取得したようにしたが、これに限らず、観光地コードを用いるようにしてもよい。

【0101】図11は、観光地コードの作用を説明するための図である。

【0102】ここで、観光地コードとは、日本および世界各地の観光地を番号付けしたものであり、GPSによる緯度経度情報に比較すると、撮影画像と関係のある参照画像または参照テキストなどの付加情報の検索を効率よく行える。

【0103】また、観光地コードの代わりに、近年桁数を増やし普及している郵便番号などの番号コードを使用するようにしてもよい。

【0104】また、本実施の形態では、付加情報データベースを画像処理装置に内蔵するようにしたが、これに限らず、図12に示すように、画像処理装置41の外部に付加情報データベース45、47を配置し、ネットワーク43を介して付加情報を取得するようにしてもよい。

【0105】図12において、図示例の画像処理装置41は、ネットワーク43を介して、他のサーバ34、36に接続されている。

【0106】すなわち、この画像処理装置41は、前記画像処理装置1と異なって、内部に付加情報データベースを備えず、代わりにネットワーク43を介して、撮影データを外部サーバ34、36に送信する。サーバ34、36は、受信した撮影データに基づいて、それぞれデータベース35、37を検索し、付加情報を取得した後、その付加情報を画像処理装置41に戻す。

【0107】この戻された付加情報に対して、画像処理装置41が実行する処理は、前記画像処理装置1のそれと同様であるので、その説明を省略する。

【0108】なお、図12中、プリンタ42は、画像処

理装置41に直接接続された周辺機器とされているが、これに限らず、ネットワーク43に接続されるネットワークプリンタとしてもよいし、前記画像処理装置1のように、その装置の一構成要素としてもよい。

【0109】また、上述した実施の形態の機能を実現するソフトウェアのプログラムコードを記録した記憶媒体を、システムまたは装置に供給し、そのシステムまたは装置のコンピュータ（またはCPUやMPU）が記憶媒体に格納されたプログラムコードを読出し実行することによっても、本発明の目的が達成されることは言うまでもない。

【0110】この場合、記憶媒体から読出されたプログラムコード自体が本発明の新規な機能を実現することになり、そのプログラムコードを記憶した記憶媒体は本発明を構成することになる。

【0111】プログラムコードを供給するための記憶媒体としては、たとえば、フロッピーディスク、ハードディスク、光ディスク、光磁気ディスク、CD-ROM、CD-R、磁気テープ、不揮発性のメモ리카ード、ROM6などを用いることができる。また、通信ネットワークを介してサーバコンピュータからプログラムコードが供給されるようにしてもよい。

【0112】また、コンピュータが読出したプログラムコードを実行することにより、上述した実施の形態の機能が実現されるだけでなく、そのプログラムコードの指示に基づき、コンピュータ上で稼働しているOSなどが実際の処理の一部または全部を行い、その処理によって上述した実施の形態の機能が実現される場合も含まれることは言うまでもない。

【0113】さらに、記憶媒体から読出されたプログラムコードが、コンピュータに挿入された機能拡張ボードやコンピュータに接続された機能拡張ユニットに備わるメモリに書込まれた後、そのプログラムコードの指示に基づき、その機能拡張ボードや機能拡張ユニットに備わるCPUなどが実際の処理の一部または全部を行い、その処理によって上述した実施の形態の機能が実現される場合も含まれることは言うまでもない。

【0114】

【発明の効果】以上説明したように、本発明によれば、第1の記憶手段から読み取られた画像情報、および第2の記憶手段から入手された付加情報が、同一の用紙上に並べて印刷できるように加工され、この加工された画像情報および付加情報に基づいて印刷されるので、付加情報の検索に手間をかけずに画像情報の整理整頓ができ、これにより、ユーザの使い勝手をさらに向上させることが可能となる。

【図面の簡単な説明】

【図1】本発明の一実施の形態に係る画像処理装置の概略構成を示すブロック図である。

【図2】媒体に記憶されるデータのデータフォーマット

の一例を示す図である。

【図3】GPSを用いた位置情報取得システムの構成の一例を示す図である。

【図4】撮影画像データ撮影用カメラの概略構成を示すブロック図である。

【図5】画角情報の作用を説明するための図である。

【図6】上下情報の作用を説明するための図である。

【図7】撮影画像に付加情報を付加して作成された第1の画像例を示す図である。

【図8】撮影画像に付加情報を付加して作成された第2の画像例を示す図である。

【図9】撮影画像に付加情報を付加して作成された第3の画像例を示す図である。

【図10】撮影画像と参照画像との照合から当該撮影画像への添付情報の付加に至る処理の流れを説明するための図である。

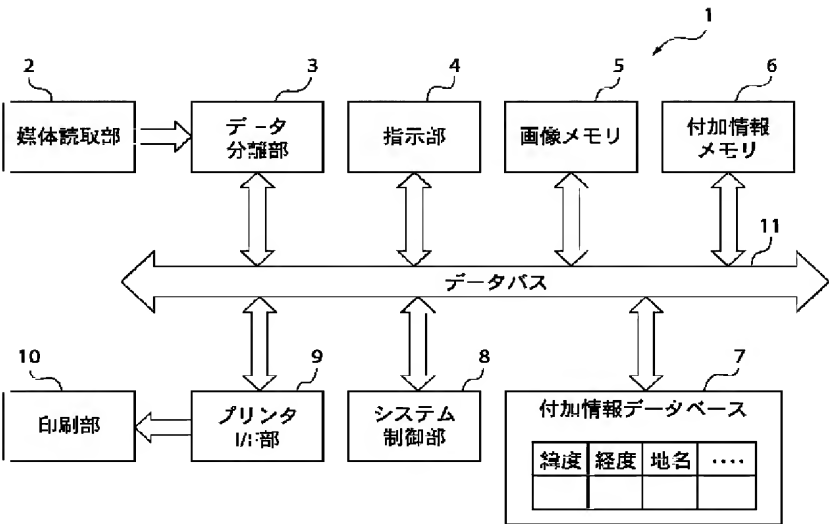
【図11】観光地コードの作用を説明するための図である。

【図12】付加情報データベースを画像処理装置の外部に配置した構成例を示す図である。

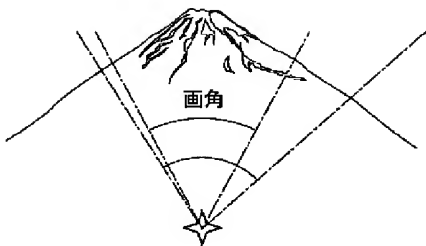
【符号の説明】

- 2 媒体読取部
- 3 データ分離部
- 4 指示部
- 5 画像メモリ
- 6 付加情報メモリ
- 7 付加情報データベース
- 8 システム制御部
- 9 プリンタI/F部
- 10 印刷部
- 11 データバス

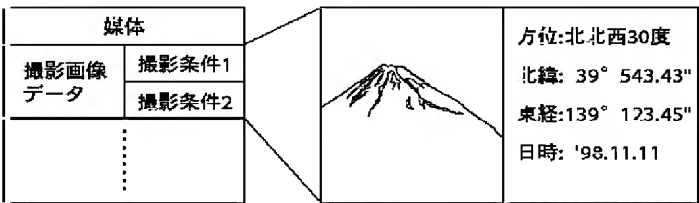
【図1】



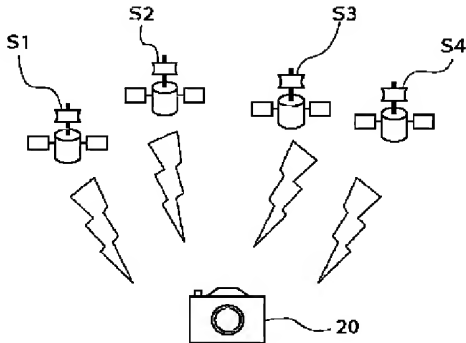
【図5】



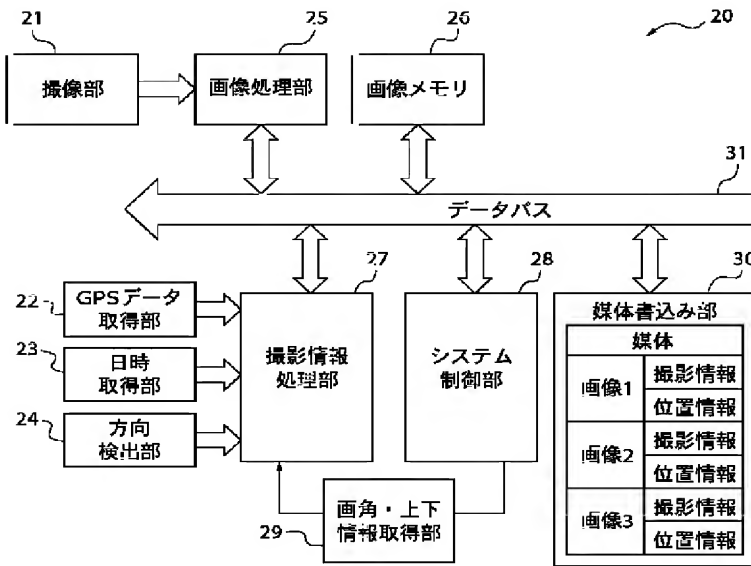
【図2】



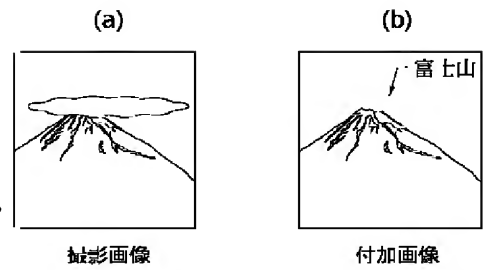
【図3】



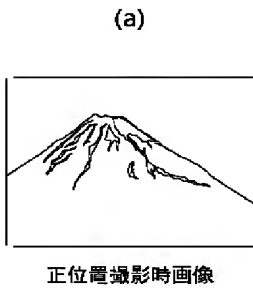
【図4】



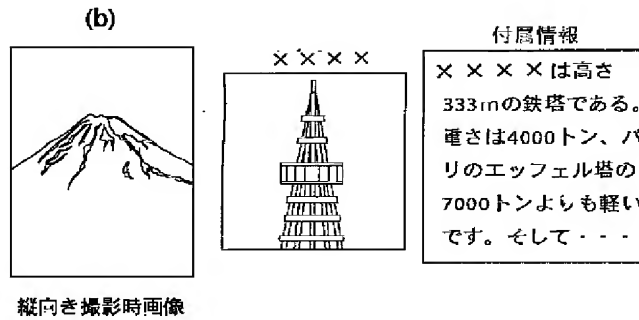
【図7】



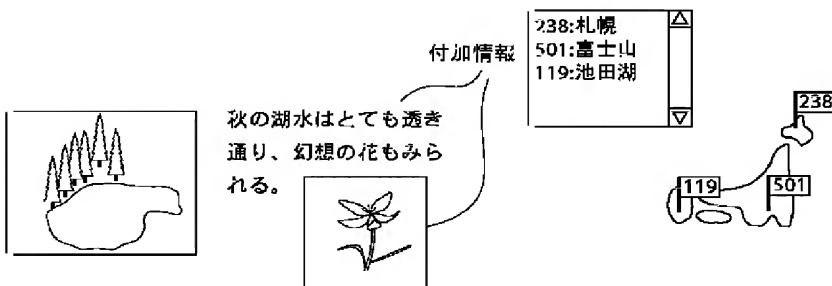
【図6】



【図8】

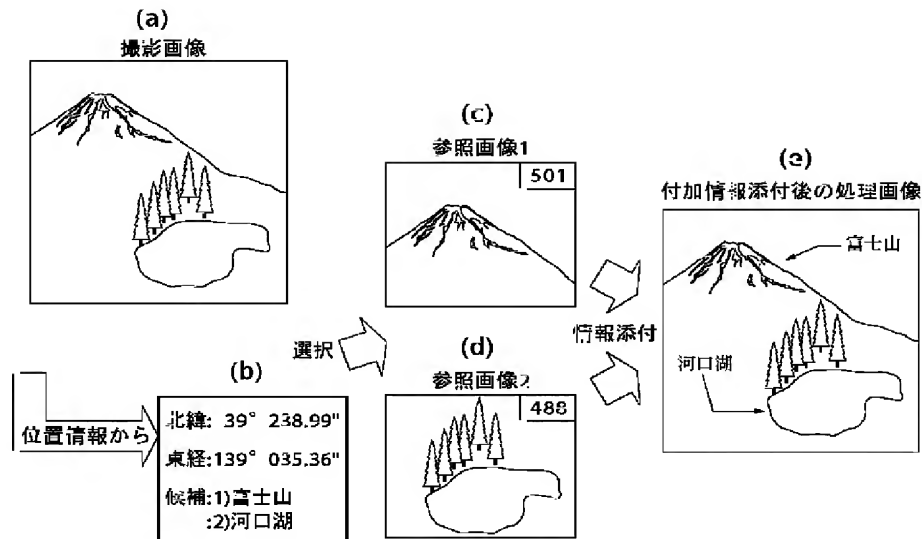


【図9】

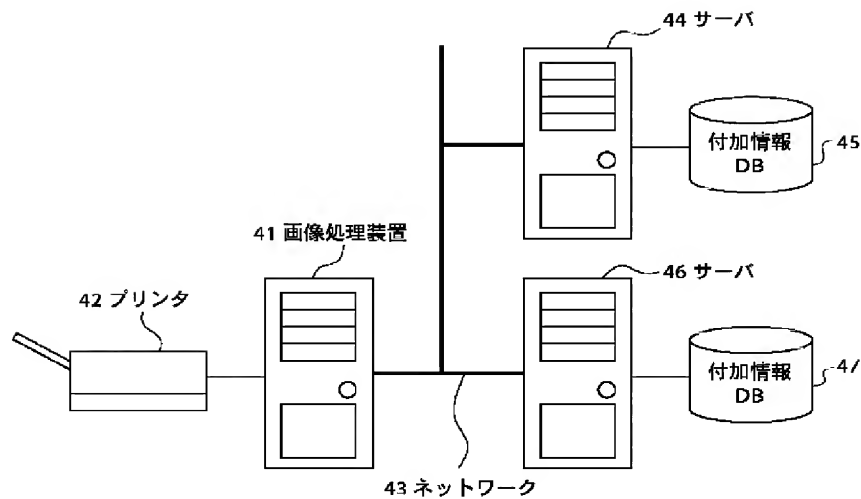


【図11】

【図10】



【図12】



フロントページの続き

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BA05 BA06

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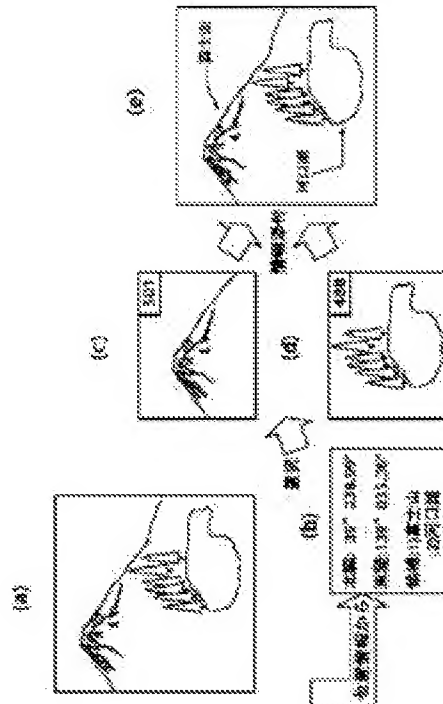
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(54) IMAGE PROCESSOR, IMAGE PROCESSING METHOD AND STORAGE MEDIUM

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an image processor capable of further improving operability of a user, an image processing method and a storage medium.

SOLUTION: A photographic spot is decided from positional information recorded in the case of photographing, pieces of information about plural sightseeing spots in the vicinity of the photographic spot are listed up as candidates of reference data of a photographing object from an additional information database by this image processor. For example, the candidates for sightseeing spot information in the vicinity of some photographic spots such as 'Mt. Fuji', 'Lake Kawaguchi', 'Lake Yamanaka' are listed up as the sightseeing spot information in the vicinity of positional photographic data. When the target sightseeing spot information is selected from among the pieces of sightseeing spot information, a reference image about the sightseeing spot information is retrieved from the sightseeing spot information of the selected photographing object and additional information is superposed on the photographed image data and printed as shown in a figure (e) by performing pattern matching for the reference image and the photographed image by the user.



CLAIMS

[Claim(s)]

[Claim 1]An image processing device comprising:

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and an output means which outputs picture information and additional information which were this processed to an external image forming device.

[Claim 2]An image processing device comprising:

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and a printing means which prints picture information and additional information which were this processed.

[Claim 3]An image processing device given in Claim 1 or either of 2 characterized by comprising the following.

A displaying means which displays a candidate of two or more additional information obtained by said additional information acquiring means.

A selecting means for a user to choose additional information used for said printing from a candidate of two or more this displayed additional information.

[Claim 4]Two or more picture information photoed with an external photographing instrument characterized by comprising the following, An additional information acquisition device connected with a reading means which reads the memorized picture information concerned and film information corresponding to this picture information via a network from the 1st memory measure that memorized film information corresponding to this each of each picture information. From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means

searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an image forming device connected via said network.

[Claim 5]Two or more picture information photoed with an external photographing instrument characterized by comprising the following, An additional information acquisition device connected with a reading means which reads the memorized picture information concerned and film information corresponding to this picture information via a network from the 1st memory measure that memorized film information corresponding to this each of each picture information. From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an external image forming device.

[Claim 6]Two or more picture information photoed with an external photographing instrument characterized by comprising the following, An additional information acquisition device connected with a reading means which reads the memorized picture information concerned and film information corresponding to this picture information via a network from the 1st memory measure that memorized film information corresponding to this each of each picture information. From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to

hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

A printing means which prints processed this picture information and additional information.

[Claim 7]A displaying means which displays a candidate of two or more additional information which came to hand with said additional information acquisition device, and was received via said network, The image processing device according to any one of claims 4 to 6, wherein a user has a selecting means for choosing additional information used for said printing from a candidate of two or more this displayed additional information.

[Claim 8]Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information, Or the image processing device according to any one of claims 1 to 7 being either of the picture information which shows an illustration which imitated a picture shown by this picture information.

[Claim 9]The image processing device according to claim 8, wherein said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means.

[Claim 10]The image processing device according to claim 9, wherein said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[Claim 11]The image processing device according to claim 8, wherein said camera station information is information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[Claim 12]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further, and said photographing instrument at the time of photography, The image processing device according to any one of claims 8 to 11 containing at least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography, and a photographing instrument at the time of photography, and date information which shows a photographing date.

[Claim 13]The image processing device according to any one of claims 8 to 12, wherein said another picture information is the picture information about a specific place or a specified facility corresponding to a camera station directed using said camera station information.

[Claim 14]The image processing device according to any one of claims 8 to 13, wherein at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information is compounded by the photoed picture information concerned as for said another picture information.

[Claim 15]The image processing device according to any one of claims 8 to 14 with which said

another picture information is characterized by adding text relevant to the candidate for photography to the photoed picture information concerned.

[Claim 16]The image processing device according to claim 15, wherein said text is information which shows a specific place in the taken image concerned, or a name of a specified facility.

[Claim 17]The image processing device according to claim 15, wherein said text is information explaining a specific place or a specified facility relevant to a camera station directed using said camera station information.

[Claim 18]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquiring means, A candidate of additional information relevant to film information read by said reading means comes to hand, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- an image processing device given in Claim 1 adding said contents information corresponding to another picture information to said read picture information, or either of 2.

[Claim 19]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, send out additional information which this came to hand via said network, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of additional information received by said additional information reception means is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- the image processing device according to any one of claims 4 to 6 adding said contents information corresponding to another picture information to said read picture information.

[Claim 20]The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method processing it and outputting picture information and additional information which were this processed to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[Claim 21]The 1st memory measure that memorized two or more picture information photoed

with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method processing it and printing picture information and additional information which were this processed by a printing means so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[Claim 22]Claim 20 inputting additional information which a user chose using a selecting means, and which is used for said printing from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed, or an image processing method given in either of 21.

[Claim 23]The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, An image processing method which processes it and is characterized by outputting picture information and additional information which were this processed to an image forming device connected via said network so that said read picture information and said received additional information can be put in order and printed on the same paper.

[Claim 24]The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method processing it and outputting picture information and additional information which were this processed to an external image forming device so that said read

picture information and said received additional information can be put in order and printed on the same paper.

[Claim 25]The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method processing it and printing picture information and additional information which were this processed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper.

[Claim 26]It is received by said additional information acquisition device, and a candidate of two or more additional information received via said network is displayed on a displaying means, The image processing method according to any one of claims 23 to 25 inputting additional information which a user chose using a selecting means, and which is used for said printing from a candidate of two or more displayed this additional information.

[Claim 27]Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information, Or the image processing method according to any one of claims 20 to 26 being either of the picture information which shows an illustration which imitated a picture shown by this picture information.

[Claim 28]The image processing method according to claim 27, wherein said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means.

[Claim 29]The image processing method according to claim 28, wherein said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[Claim 30]The image processing method according to claim 28, wherein said camera station information is information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[Claim 31]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further, and said photographing instrument at the time of photography, The image processing method according to any one of claims 27 to 30 containing at least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a

candidate for photography, and a photographing instrument at the time of photography, and date information which shows a photographing date.

[Claim 32]The image processing method according to any one of claims 27 to 31, wherein said another picture information is the picture information about a specific place or a specified facility corresponding to a camera station directed using said camera station information.

[Claim 33]The image processing method according to any one of claims 27 to 32, wherein at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information is compounded by the photoed picture information concerned as for said another picture information.

[Claim 34]The image processing method according to any one of claims 27 to 33 with which said another picture information is characterized by adding text relevant to the candidate for photography to the photoed picture information concerned.

[Claim 35]The image processing method according to claim 34, wherein said text is information which shows a specific place in the taken image concerned, or a name of a specified facility.

[Claim 36]The image processing method according to claim 34, wherein said text is information explaining a specific place or a specified facility relevant to a camera station directed using said camera station information.

[Claim 37]Have the following and a candidate of additional information relevant to said read film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- an image processing method given in Claim 20 or either of 21 adding said contents information corresponding to another picture information to said read picture information.

Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information.

Contents information which shows the contents for [in this picture information] photography.

[Claim 38]Have the following and said additional information acquisition device obtains a candidate of additional information relevant to film information read by said reading means, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- the image processing method according to any one of claims 23 to 25 adding said contents information corresponding to another picture information to said read picture information.

Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information.

Contents information which shows the contents for [in this picture information] photography.

[Claim 39]A storage which stored a program which can realize a computer, comprising:
Two or more picture information photoed with an external photographing instrument.
From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.
From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand,
An image processing method which processes it and outputs picture information and additional information which were this processed to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[Claim 40]A storage which stored a program which can realize a computer, comprising:
Two or more picture information photoed with an external photographing instrument.
From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.
From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that additional information relevant to film information read by said reading means may be searched and obtained and said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[Claim 41]Claim 39 inputting additional information which a user chose using a selecting means, and which is used for said printing from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed, or a storage given in either of 40.

[Claim 42]A storage which stored a program which can realize a computer, comprising:
Two or more picture information photoed with an external photographing instrument.
From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.
It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out

film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, An image processing method which processes it and outputs picture information and additional information which were this processed to an image forming device connected via said network so that said read picture information and said received additional information can be put in order and printed on the same paper.

[Claim 43]Two or more picture information photoed with an external photographing instrument characterized by comprising the following, An additional information acquisition device which read the memorized picture information concerned and film information corresponding to this picture information, and was connected via a network from the 1st memory measure that memorized film information corresponding to this each of each picture information.

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network.

An image processing method which processes it and outputs picture information and additional information which were this processed to an external image forming device so that said read picture information and said received additional information can be put in order and printed on the same paper.

[Claim 44]Two or more picture information photoed with an external photographing instrument characterized by comprising the following, An additional information acquisition device which read the memorized picture information concerned and film information corresponding to this picture information, and was connected via a network from the 1st memory measure that memorized film information corresponding to this each of each picture information.

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network.

An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper.

[Claim 45]It is received by said additional information acquisition device, and a candidate of two

or more additional information received via said network is displayed on a displaying means, The storage according to any one of claims 42 to 44 inputting additional information which a user chose using a selecting means, and which is used for said printing from a candidate of two or more displayed this additional information.

[Claim 46]Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information, Or the storage according to any one of claims 39 to 45 being either of the picture information which shows an illustration which imitated a picture shown by this picture information.

[Claim 47]The storage according to claim 46, wherein said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means.

[Claim 48]The storage according to claim 47, wherein said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[Claim 49]The storage according to claim 47, wherein said camera station information is information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[Claim 50]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further, and said photographing instrument at the time of photography, The storage according to any one of claims 46 to 49 containing at least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography, and a photographing instrument at the time of photography, and date information which shows a photographing date.

[Claim 51]The storage according to any one of claims 46 to 50, wherein said another picture information is the picture information about a specific place or a specified facility corresponding to a camera station directed using said camera station information.

[Claim 52]The storage according to any one of claims 46 to 51, wherein at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information is compounded by the photoed picture information concerned as for said another picture information.

[Claim 53]The storage according to any one of claims 46 to 52 with which said another picture information is characterized by adding text relevant to the candidate for photography to the photoed picture information concerned.

[Claim 54]The storage according to claim 53, wherein said text is information which shows a specific place in the taken image concerned, or a name of a specified facility.

[Claim 55]The storage according to claim 34, wherein said text is information explaining a specific place or a specified facility relevant to a camera station directed using said camera station information.

[Claim 56]Have the following and a candidate of additional information relevant to said read

film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- a storage given in Claim 39 or either of 40 adding said contents information corresponding to another picture information to said read picture information.

Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information.

Contents information which shows the contents for [in this picture information] photography.

[Claim 57]Have the following and said additional information acquisition device obtains a candidate of additional information relevant to film information read by said reading means, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- the storage according to any one of claims 42 to 44 adding said contents information corresponding to another picture information to said read picture information.

Another picture information by which said film information was photoed in a camera station where said additional information is directed using said camera station information including camera station information.

Contents information which shows the contents for [in this picture information] photography.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]As opposed to the picture information by which this invention read the picture information and film information which photoed and memorized the film information with the photographing instrument of the exterior memorizable to a storage with picture information from the storage concerned, and this reading appearance was carried out, It is related with the image processing device, image processing method, and storage which perform processing based on the read film information concerned.

[0002]

[Description of the Prior Art]In recent years, the opportunity for many people to use various cameras regardless of an individual or a specialist has increased. In addition to taken images, such as scenery and a person image, as conventional technology about the Information Storage Division photographic system using a camera, what records the film information which is shown as for a photographing state (photography environment) on the medium of a film or others exists in a film-based camera or a digital camera.

[0003]On the other hand, generally the system which measures the present position of an object with a satellite, i.e., a global positioning system, (GPS) has spread with the spread of car navigation.

[0004]And the camera station data obtained from GPS comes to hand, and development of the system to deal with is also performed briskly.

[0005]As an image processing device which combined these two art, The position information which formed the GPS device in the still camera and was acquired from the GPS device, For example, record latitude longitude information on storages, such as a floppy (registered trademark) disk, with photographed image data, and latitude longitude information is read with photographed image data at the time of a print, What searches and specifies from a database the filming site name which is in agreement with this latitude longitude information is indicated, for example to JP,H8-233565,A.

[0006]The positioning system device by GPS is formed and the camera which can record the information about the camera station of a camera is also proposed [various].

[0007]There were what transfers the photographed image data photoed with the camera on photographic paper as a conventional printer, and a thing which edits the photoed photographed image data with the specific tool on a personal computer, and is printed as a text or a picture.

[0008]

[Problem(s) to be Solved by the Invention]However, in the above-mentioned conventional image processing device, see the photoed picture, or make the information about the camera station included in film information contrast with an electronic chart, and arrange and display on a monitor or, Although what pinpoints a photographing location using the information about the camera station included in film information is already proposed, When the operator and user of a camera actually use a taken image, the additional information relevant to this taken image is searched, What used this searched additional information in order to carry out house keeping of the taken image concerned, or compares this searched additional information with the taken image concerned, and printed it was not proposed, but the room of improvement was still at this point.

[0009]This invention is made paying attention to this point, and is a thing.

It is providing the image processing device which can raise the purpose further, an image processing method, and a storage.

[0010]

[Means for Solving the Problem]This invention is characterized by the image processing device according to claim 1 comprising the following to achieve the above objects.

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and an output means which outputs picture information and additional information which were this processed to an external image forming device.

[0011]written this invention is characterized by it having been alike and comprising the following at Claim 2.

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and a printing means which prints picture information and additional information which were this processed.

[0012]A displaying means which displays preferably a candidate of two or more additional information obtained by said additional information acquiring means, and a user have a selecting means for choosing additional information used for said printing from a candidate of two or more this displayed additional information.

[0013]This invention in order to attain the above-mentioned purpose the image processing device according to claim 4, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:
From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an image forming device connected via said network.

[0014]This invention the image processing device according to claim 5, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via

this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an external image forming device.

[0015]Furthermore, this invention the image processing device according to claim 6, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

A printing means which prints processed this picture information and additional information.

[0016]Preferably, it is received by said additional information acquisition device, and a displaying means which displays a candidate of two or more additional information received via said network, and a user have a selecting means for choosing additional information used for said printing from a candidate of two or more this displayed additional information.

[0017]Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown by this picture information including camera station information.

[0018]Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0019]Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0020]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said

photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0021]A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0022]Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0023]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquiring means, A candidate of additional information relevant to film information read by said reading means comes to hand, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0024]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, send out additional information which this came to hand via said network, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of additional information received by said additional information reception means is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0025]In order to attain the above-mentioned purpose, the image processing method according to claim 20, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, It is processed and picture information and additional information which were this processed are outputted to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[0026]Two or more picture information by which the image processing method according to

claim 21 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, It is processed and picture information and additional information which were this processed are printed by a printing means so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[0027]Additional information which a user chose using a selecting means and which is used for said printing is inputted from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed preferably.

[0028]In order to attain the above-mentioned purpose, the image processing method according to claim 23, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, It is processed and picture information and additional information which were this processed are outputted to an image forming device connected via said network so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0029]Two or more picture information by which the image processing method according to claim 24 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, It is processed and picture information and additional information which were this processed are outputted to an external image forming device so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0030]The image processing method according to claim 25, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized

picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, It is processed and picture information and additional information which were this processed are printed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0031] Preferably, it is received by said additional information acquisition device, and a candidate of two or more additional information received via said network is displayed on a displaying means, From a candidate of two or more displayed this additional information, additional information which a user chose using a selecting means and which is used for said printing is inputted.

[0032] Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown by this picture information including camera station information.

[0033] Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0034] Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0035] Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0036] A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0037] Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0038] Said film information including camera station information said additional information, Another picture information photoed in a camera station directed using said camera station information, Consist of contents information which shows the contents for [in this picture

information] photography, and a candidate of additional information relevant to said read film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0039]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0040]In order to attain the above-mentioned purpose, the storage according to claim 39, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method processing it and outputting picture information and additional information which were this processed to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper is included.

[0041]Two or more picture information by which the storage according to claim 40 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper is included.

[0042]Additional information which a user chose using a selecting means and which is used for said printing is inputted from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed preferably.

[0043]In order to attain the above-mentioned purpose, the storage according to claim 42, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information

acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, It is processed and an image processing method which outputs picture information and additional information which were this processed to an image forming device connected via said network is included so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0044]Two or more picture information by which the storage according to claim 43 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method which processes it and outputs picture information and additional information which were this processed to an external image forming device so that said read picture information and said received additional information can be put in order and printed on the same paper is included.

[0045]Two or more picture information by which the storage according to claim 44 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper is included.

[0046]Preferably, it is received by said additional information acquisition device, and a candidate of two or more additional information received via said network is displayed on a displaying means, From a candidate of two or more displayed this additional information, additional information which a user chose using a selecting means and which is used for said printing is inputted.

[0047]Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown by this picture information including camera station information.

[0048]Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0049]Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0050]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0051]A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0052]Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0053]Said film information including camera station information said additional information, Another picture information photoed in a camera station directed using said camera station information, Consist of contents information which shows the contents for [in this picture information] photography, and a candidate of additional information relevant to said read film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0054]Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0055]

[Embodiment of the Invention] Hereafter, an embodiment of the invention is described in detail based on Drawings.

[0056] Drawing 1 is a block diagram showing the outline composition of the image processing device 1 concerning the 1 embodiment of this invention.

[0057] As shown in the figure, the image processing device 1 is constituted by the medium reading section 2, the data separation section 3, the directions part 4, the image memory 5, the additional information memory 6, the additional information database 7, the system control part 8, the printer I/F part 9, and the printing department 10. And the above-mentioned components 3-9 are mutually connected via the data bus 11, the medium reading section 2 is connected to the data separation section 3, and the printing department 10 is connected to the printer I/F part 9.

[0058] In this embodiment, although the printing department 10 considered it as one component of the image processing device 1, it makes not only this but the printer I/F part 9 the component of an image processing device, and its printing department 10 is good also as an isolated system of a different body.

[0059] The medium reading section 2 inserts the medium (for example, memory stick) which memorized the photographed image data recorded with the camera which carries GPS, and shot data, and reads the data in this medium.

[0060] The data separation section 3 divides the data read by the medium reading section 2 into the photographed image data and shot data which consists of latitude and longitude, such as camera station information, bearing-of-the-exposure-axis information, up-and-down information, and field angle information, which are the component.

[0061] The directions part 4 directs all the operations, such as a display of the photographed image data separated by the data separation section 3, and a display of the photographed image data and the related attached data which were searched from the additional information database 7 mentioned later.

[0062] The image memory 5 is read by the medium reading section 2, and accumulates the photographed image data separated by the data separation section 3.

[0063] The additional information memory 6 accumulates the photographed image data and the related attached data which were searched from the additional information database 7 using the shot data separated by the data separation section 3.

[0064] Photographed image data and attached data with relation are put in a database according to the item of the camera station information which consists of latitude and longitude, bearing-of-the-exposure-axis information, up-and-down information, and field angle information, and the additional information database 7 records them.

[0065] The system control part 8 controls the data separation section 3, the directions part 4, the picture memory part 4, the additional information memory 6, the additional information database 7, and the printer I/F part 9.

[0066] The printer I/F part 9 transmits photographed image data and addition shot data to the printing department 10 for printing.

[0067] The printing department 10 prints the print data transmitted from the printer I/F part 9.

[0068] Thus, the control management which the ****(ed) image processing device 1 performs is as follows.

[0069] That is, the photographed image data and shot data which are memorized by this medium are first read from said medium by the medium reading section 2.

[0070] Next, the read data is divided into photographed image data and shot data by the data

separation section 3.

[0071]Next, while the separated photographed image data is accumulated in the image memory 5, the separated shot data is analyzed by the system control part 8. Based on this analysis result, the additional information which has relation in latitude and longitude from the additional information database 7 is searched, and this additional information acquired by searching is accumulated in the additional information memory 6.

[0072]Next, while the directions part 4 directs a display layout based on the stored data, it checks to a user and the printing is directed to the printing department 10 via the printer I/F part 9.

[0073]Drawing 2 is a figure showing an example of the data format of the data memorized by the medium.

[0074]The photographed image data whose data in a medium is a taken image in the figure, It consists of shot data which consists of the environment at the time of taking a photograph, a position, and data about other photography, and one photographed image data and the shot data which consists of two or more photographing condition information corresponding to this photographed image data serve as a group of a couple, and is constituted. And to a medium, two or more sets of data of the group of this couple is saved.

[0075]Shot data comprises two or more data of a direction, latitude, longitude, an altitude, time, a field angle, up-and-down information, etc. These data is acquired by photographing condition recording systems, such as GPS.

[0076]Drawing 3 is a figure showing an example of the composition of a position information acquiring system which used GPS.

[0077]As shown in the figure, GPS is a system device which receives the electric wave sent from the four satellites S1 arranged on the circumference orbit of the earth - S4, and measures the latitude of a measure point, longitude, an altitude, etc. By carrying the receiver for GPS, and each measuring device in a camera, the position information at the time of photography, direction information, up-and-down information, field angle information, etc. are acquirable. The acquired data is combined with photographed image data within a camera at the time of photography, and is recorded on said medium as conditions at the time of photography.

[0078]Drawing 4 is a block diagram showing the outline composition of the camera 20 for photographed-image-data photography.

[0079]As shown in the figure, the camera 20 The image pick-up part 21 and the GPS-data acquisition part 22, It is constituted by the time acquisition part 23, the direction primary detecting element 24, the image processing portion 25, the image memory 26, the imaging information treating part 27, the system control part 28, a field angle and an up-and-down information acquisition section 29, the medium writing part 30, and the data bus 31.

[0080]The image pick-up part 21 is incorporated as photographed image data which decomposed the candidate for photography into R(red) G(green) B (blue) which is the three primary colors of a color. Thus, the incorporated photographed image data is changed into the form in which digital processing is possible by the image processing portion 25, and is once accumulated in the image memory 26. The photographed image data of one sheet or two or more sheets is accumulated in the image memory 26, and, subsequently it is transmitted to the medium writing part 30 via the data bus 21.

[0081]Each information acquired by the GPS-data acquisition part 22, the time acquisition part 23, the direction primary detecting element 24, and a field angle and an up-and-down information acquisition section 29 is equivalent to said photographing condition information, and each information is transmitted to the film information treating part 27.

[0082]The film information treating part 27 arranges a data format, in order to transmit and record shot data on the medium writing part 30.

[0083]The medium writing part 30 records on a medium each data transmitted from the image processing portion 25 and the film information treating part 27, clarifying a dependency. The recorded medium is used by the image processing device 1 as mentioned above.

[0084]Drawing 5 is a figure for explaining an operation of field angle information, and as shown in the figure, even when the values (field angle) of field angle information differed and the same direction is photoed from the same position, the ranges photoed differ.

[0085]Drawing 6 is a figure for explaining an operation of up-and-down information.

[0086]At the time of photography, many of users who operate a camera may lean a camera vertically and horizontally, they may photo it, and as shown in the figure, even when inclination (value of up-and-down information) of a camera differed and the same position and the same direction are photoed, the ranges photoed differ.

[0087]Field angle information and up-and-down information are information required since it specifies that the taken image photoed by a different photographing condition photos the same subject.

[0088]Drawing 7 is a figure showing the 1st example of a picture that added additional information to the taken image and was created, (a) shows the taken image of the mountain which hid in clouds which is an example of the original taken image, and (b) shows the 1st created example of a picture.

[0089]As mentioned above, the shot data used as the group exists in the original photographed image data. This shot data is separated by said data separation section 3 from corresponding photographed image data, and the shot data after separation, It is analyzed by said system control part 8, and various information, such as two or more photographing condition information which constitutes this shot data, i.e., latitude, longitude, time, a direction, up-and-down information, and field angle information, is acquired. And based on two or more of these acquired photographing condition information, said additional information database 7 is searched and required information, including the image comparison copied from the same camera station or the illustration which imitated it, is acquired.

[0090]The 1st example of a picture of the above (b) shows the image comparison produced by doing in this way. This image comparison changes according to date information (it is summer, winter, is daytime, or is night?), up-and-down information, and field angle information.

[0091]By performing such processing, the additional information agreed and needed for a user's needs can be added easily.

[0092]Drawing 8 is a figure showing the 2nd example of a picture that added additional information to the taken image and was created, (a) shows the taken image of Tokyo Tower which is an example of the original taken image, and (b) shows the 2nd created example of a picture.

[0093]Like said drawing 7, based on two or more photographing condition information which constitutes shot data, the 2nd example of a picture of the above (b) searched the additional information database 7, and has collected and arranged the text data relevant to a taken image. The candidate for photography is more specifically specified from various information, such as latitude, longitude, time, a direction, up-and-down information, field angle information, etc. which constitute shot data, the text information about the candidate for photography is searched from the additional information database 7, and it is arranging and printing with the taken image.

[0094]Drawing 9 is a figure showing the 3rd example of a picture that added additional

information to the taken image and was created, (a) shows the taken image of a lake which is an example of the original taken image, and (b) shows the 3rd created example of a picture.

[0095]Based on two or more photographing condition information which constitutes shot data, the 2nd example of a picture of the above (b) also searched the additional information database 7, and has collected and arranged the image data relevant to a taken image. [as well as drawing 7 and drawing 8] The candidate for photography is more specifically specified from various information, such as latitude, longitude, time, a direction, up-and-down information, field angle information, etc. which constitute shot data, the image information and picture information about the candidate for photography are searched from the additional information database 7, and it is arranging and printing with the taken image.

[0096]A layout is performed checking in said directions part 4.

[0097]Drawing 10 is a figure for explaining the flow of the processing which results in addition of the attached information from collation with a taken image and an image comparison to the taken image concerned, and (a) shows the photographed image data which photoed the mountain and the lake.

[0098]In the figure, it decides on a photographing location first from the position information recorded at the time of photography.

[0099]Next, the information on two or more tourist resorts which are near a photographing location from the additional information database 7 is listed as a candidate of the referred data for photography. For example, the candidate of some tourist resort information on the photographing location neighborhood is listed like "Mt. Fuji", "Kawaguchiko", and "Yamanakako" as tourist resort information near position shot data. A user chooses from this inside the tourist resort information made into the purpose. By searching the image comparison about this from the tourist resort information for [selected] photography, and carrying out pattern matching of this image comparison and taken image, as shown in (e), to photographed image data, overwrite composition is carried out and additional information is printed.

[0100]Although position information was acquired by GPS, it may be made to use not only this but a tourist resort code in this embodiment.

[0101]Drawing 11 is a figure for explaining an operation of a tourist resort code.

[0102]Here, with a tourist resort code, Japan and the tourist resort of every corner of the earth are numbered, and additional information, such as a taken image, a related image comparison, or a reference text, can be efficiently searched as compared with the latitude longitude information by GPS.

[0103]It may be made to use numbered codes, such as a zip code which increase a digit number in recent years and has spread, instead of a tourist resort code.

[0104]Although it was made to build an additional information database in an image processing device, the additional information databases 45 and 47 are arranged to the exterior of the image processing device 41, and it may be made to acquire additional information via the network network 43 in this embodiment, as shown not only in this but in drawing 12.

[0105]In drawing 12, the image processing device 41 of the example of a graphic display is connected to other servers 34 and 36 via the network 43.

[0106]That is, unlike said image processing device 1, this image processing device 41 does not equip an inside with an additional information database, but transmits shot data to the external servers 34 and 36 via the network 43 instead. After the servers 34 and 36 search the databases 35 and 37, respectively and acquire additional information based on the received shot data, they return the additional information to the image processing device 41.

[0107]Since the processing which the image processing device 41 performs to this returned additional information is the same as that of it of said image processing device 1, that explanation is omitted.

[0108]Among drawing 12, although the printer 42 is used as the peripheral equipment by which direct continuation was carried out to the image processing device 41, it is good also as a network printer connected not only to this but to the network 43, and good also as one component of the device like said image processing device 1.

[0109]The storage which recorded the program code of the software which realizes the function of an embodiment mentioned above, Also when a system or a device is supplied and the computer (or CPU and MPU) of the system or a device reads and executes the program code stored in the storage, it cannot be overemphasized that the purpose of this invention is attained.

[0110]In this case, the program code itself read from the storage will realize the new function of this invention, and the storage which memorized that program code will constitute this invention.

[0111]As a storage for supplying a program code, a floppy disk, a hard disk, an optical disc, a magneto-optical disc, CD-ROM, CD-R, magnetic tape, a nonvolatile memory card, ROM6, etc. can be used, for example. A program code may be made to be supplied from a server computer via a communication network.

[0112]By executing the program code which the computer read, It cannot be overemphasized that it is contained also when the function of an embodiment which OS etc. which are working on a computer performed a part or all of actual processing, and the function of an embodiment mentioned above is not only realized, but they mentioned above by the processing based on directions of the program code is realized.

[0113]After the program code read from the storage was written in the memory with which the function expansion unit connected to the expansion board inserted in the computer or the computer is equipped, It cannot be overemphasized that it is contained also when the function of an embodiment which performed a part or all of processing that CPU etc. with which the expansion board and function expansion unit are equipped are actual, based on directions of the program code, and was mentioned above by the processing is realized.

[0114]

[Effect of the Invention]The picture information which was read in the 1st memory measure according to this invention as explained above, And since the additional information which came to hand from the 2nd memory measure is processed so that it can arrange and print on the same paper, and it is printed based on this picture information and additional information that were processed, House keeping of picture information can be performed without applying time and effort to search of additional information, and, thereby, it becomes possible to raise a user's user-friendliness further.

TECHNICAL FIELD

[Field of the Invention]As opposed to the picture information by which this invention read the picture information and film information which photoed and memorized the film information with the photographing instrument of the exterior memorizable to a storage with picture information from the storage concerned, and this reading appearance was carried out, It is related with the image processing device, image processing method, and storage which perform processing based on the read film information concerned

PRIOR ART

[Description of the Prior Art]In recent years, the opportunity for many people to use various cameras regardless of an individual or a specialist has increased. In addition to taken images, such as scenery and a person image, as conventional technology about the Information Storage Division photographic system using a camera, what records the film information which is shown as for a photographing state (photography environment) on the medium of a film or others exists in a film-based camera or a digital camera.

[0003]On the other hand, generally the system which measures the present position of an object with a satellite, i.e., a global positioning system, (GPS) has spread with the spread of car navigation.

[0004]And the camera station data obtained from GPS comes to hand, and development of the system to deal with is also performed briskly.

[0005]As an image processing device which combined these two art, The position information which formed the GPS device in the still camera and was acquired from the GPS device, For example, record latitude longitude information on storages, such as a floppy (registered trademark) disk, with photographed image data, and latitude longitude information is read with photographed image data at the time of a print, What searches and specifies from a database the filming site name which is in agreement with this latitude longitude information is indicated, for example to JP,H8-233565,A.

[0006]The positioning system device by GPS is formed and the camera which can record the information about the camera station of a camera is also proposed [various].

[0007]There were what transfers the photographed image data photoed with the camera on photographic paper as a conventional printer, and a thing which edits the photoed photographed image data with the specific tool on a personal computer, and is printed as a text or a picture.

EFFECT OF THE INVENTION

[Effect of the Invention]As explained above, in this invention, the picture information read in the 1st memory measure and the additional information which came to hand from the 2nd memory measure are processed so that it can arrange and print on the same paper, and is printed based on this picture information and additional information that were processed.

Therefore, house keeping of picture information can be performed without applying time and effort to search of additional information, and, thereby, it becomes possible to raise a user's user-friendliness further.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, in the above-mentioned conventional image processing device, see the photoed picture, or make the information about the camera station included in film information contrast with an electronic chart, and arrange and display on a monitor or, Although what pinpoints a photographing location using the information about the camera station included in film information is already proposed, When the operator and user of a

camera actually use a taken image, the additional information relevant to this taken image is searched, What used this searched additional information in order to carry out house keeping of the taken image concerned, or compares this searched additional information with the taken image concerned, and printed it was not proposed, but the room of improvement was still at this point.

[0009]This invention is made paying attention to this point, and is a thing.

It is providing the image processing device which can raise the purpose further, an image processing method, and a storage.

MEANS

[Means for Solving the Problem]This invention is characterized by the image processing device according to claim 1 comprising the following to achieve the above objects.

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and an output means which outputs picture information and additional information which were this processed to an external image forming device.

[0011]written this invention is characterized by it having been alike and comprising the following at Claim 2.

Two or more picture information photoed with an external photographing instrument.

From the 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned.

A reading means which reads film information corresponding to this picture information.

An additional information acquiring means which searches and obtains additional information relevant to film information read by said reading means from the 2nd memory measure that memorizes additional information relevant to said film information, A processing means processed so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper, and a printing means which prints picture information and additional information which were this processed.

[0012]A displaying means which displays preferably a candidate of two or more additional information obtained by said additional information acquiring means, and a user have a selecting means for choosing additional information used for said printing from a candidate of two or more this displayed additional information.

[0013]This invention in order to attain the above-mentioned purpose the image processing device according to claim 4, The 1st memory measure that memorized two or more picture information

photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an image forming device connected via said network.

[0014]This invention the image processing device according to claim 5, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

An output means which outputs processed this picture information and additional information to an external image forming device.

[0015]Furthermore, this invention the image processing device according to claim 6, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, A reading means which reads film information corresponding to this picture information, and an additional information acquisition device connected via a network are characterized by comprising:

From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, A delivery means which sends out said read film information via this network to a thing which sends out this additional information which came to hand via said

network, and to carry out.

An additional information reception means which receives additional information which came to hand with said additional information acquisition device according to sent-out this film information, and was sent out via said network.

A processing means processed so that said read picture information and said received additional information can be put in order and printed on the same paper.

A printing means which prints processed this picture information and additional information.

[0016] Preferably, it is received by said additional information acquisition device, and a displaying means which displays a candidate of two or more additional information received via said network, and a user have a selecting means for choosing additional information used for said printing from a candidate of two or more this displayed additional information.

[0017] Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown by this picture information including camera station information.

[0018] Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0019] Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0020] Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0021] A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0022] Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0023] Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquiring means, A candidate of additional information relevant to film information read by said reading means comes to hand, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a

picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0024] Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, send out additional information which this came to hand via said network, and said processing means, Pattern matching of picture information read by said reading means and another picture information in a candidate of additional information received by said additional information reception means is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0025] In order to attain the above-mentioned purpose, the image processing method according to claim 20, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, It is processed and picture information and additional information which were this processed are outputted to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[0026] Two or more picture information by which the image processing method according to claim 21 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, It is processed and picture information and additional information which were this processed are printed by a printing means so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper.

[0027] Additional information which a user chose using a selecting means and which is used for said printing is inputted from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed preferably.

[0028] In order to attain the above-mentioned purpose, the image processing method according to claim 23, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film

information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, It is processed and picture information and additional information which were this processed are outputted to an image forming device connected via said network so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0029]Two or more picture information by which the image processing method according to claim 24 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, It is processed and picture information and additional information which were this processed are outputted to an external image forming device so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0030]The image processing method according to claim 25, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, It is processed and picture information and additional information which were this processed are printed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0031]Preferably, it is received by said additional information acquisition device, and a candidate of two or more additional information received via said network is displayed on a displaying means, From a candidate of two or more displayed this additional information, additional information which a user chose using a selecting means and which is used for said printing is inputted.

[0032]Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown

by this picture information including camera station information.

[0033] Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0034] Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0035] Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0036] A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information, and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0037] Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0038] Said film information including camera station information said additional information, Another picture information photoed in a camera station directed using said camera station information, Consist of contents information which shows the contents for [in this picture information] photography, and a candidate of additional information relevant to said read film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0039] Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0040] In order to attain the above-mentioned purpose, the storage according to claim 39, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture

information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method processing it and outputting picture information and additional information which were this processed to an external image forming device so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper is included.

[0041]Two or more picture information by which the storage according to claim 40 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, From the 2nd memory measure that reads film information corresponding to this picture information, and memorizes additional information relevant to said film information. Additional information relevant to film information read by said reading means searches and comes to hand, An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that said read picture information and said additional information which came to hand can be put in order and printed on the same paper is included.

[0042]Additional information which a user chose using a selecting means and which is used for said printing is inputted from a candidate of two or more additional information which made display a candidate of two or more of said additional information which came to hand on a displaying means, and was this displayed preferably.

[0043]In order to attain the above-mentioned purpose, the storage according to claim 42, The 1st memory measure that memorized two or more picture information photoed with an external photographing instrument, and film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, Via this network, send out said read film information and according to this sent-out film information, It is received by said additional information acquisition device, and additional information sent out via said network is received, It is processed and an image processing method which outputs picture information and additional information which were this processed to an image forming device connected via said network is included so that said read picture information and said received additional information can be put in order and printed on the same paper.

[0044]Two or more picture information by which the storage according to claim 43 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception

means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method which processes it and outputs picture information and additional information which were this processed to an external image forming device so that said read picture information and said received additional information can be put in order and printed on the same paper is included.

[0045]Two or more picture information by which the storage according to claim 44 was photoed with an external photographing instrument, The 1st memory measure that memorized film information corresponding to this each of each picture information to the memorized picture information concerned, It is the additional information acquisition device which read film information corresponding to this picture information, and was connected via a network, From the 2nd memory measure that memorizes additional information relevant to said film information, additional information relevant to film information read by said reading means searches and comes to hand, As opposed to a thing which sends out this additional information which came to hand via said network and to carry out, An additional information reception means which receives additional information which sent out said read film information, came to hand with said additional information acquisition device according to this sent-out film information, and was sent out via said network via this network, An image processing method which processes it and prints picture information and additional information which were this processed by a printing means so that said read picture information and said received additional information can be put in order and printed on the same paper is included.

[0046]Preferably, it is received by said additional information acquisition device, and a candidate of two or more additional information received via said network is displayed on a displaying means, From a candidate of two or more displayed this additional information, additional information which a user chose using a selecting means and which is used for said printing is inputted.

[0047]Said film information is preferably characterized by said additional information being either another picture information photoed in a camera station directed using said camera station information, or picture information which shows an illustration which imitated a picture shown by this picture information including camera station information.

[0048]Preferably, said camera station information is information which consists of latitude and longitude which were measured by latitude longitude measuring means, and said latitude longitude measuring means measures information which consists of latitude and longitude using an artificial satellite.

[0049]Said camera station information is preferably characterized by being the information directed to a specific place or a specified facility in tourist resort code assigned to a meaning.

[0050]Bearing-of-the-exposure-axis information said film information indicates bearing of the exposure axis at the time of photography to be further preferably, At least one or more of field angle information which shows a field angle to a candidate for photography of up-and-down information which shows the hierarchical order to a candidate for photography of said photographing instrument at the time of photography, and a photographing instrument at the time of photography, and date information which shows a photographing date are included.

[0051]A thing about a specific place or a specified facility corresponding to a camera station where said another picture information is preferably directed using said camera station information, Or text relevant to the candidate for photography is added to a thing by which at least one of said bearing of the exposure axis, up-and-down information, field angle information,

and date information was compounded by the photoed picture information concerned, or the photoed picture information concerned.

[0052] Said text is preferably characterized by being the information explaining a specific place or a specified facility relevant to a camera station directed using information which shows a specific place in the taken image concerned, or a name of a specified facility, or said camera station information.

[0053] Said film information including camera station information said additional information, Another picture information photoed in a camera station directed using said camera station information, Consist of contents information which shows the contents for [in this picture information] photography, and a candidate of additional information relevant to said read film information comes to hand, Pattern matching of said read picture information and another picture information in a candidate of said additional information which came to hand is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0054] Said film information including camera station information said additional information, Consist of another picture information photoed in a camera station directed using said camera station information, and contents information which shows the contents for [in this picture information] photography, and said additional information acquisition device, A candidate of additional information relevant to film information read by said reading means comes to hand, Send out this additional information which came to hand via said network, and pattern matching of said read picture information and another picture information in a candidate of said received additional information is performed, as a result -- a case where another picture information which is in agreement with a picture currently photoed in said read picture information exists -- this -- said contents information corresponding to another picture information is added to said read picture information

[0055]

[Embodiment of the Invention] Hereafter, an embodiment of the invention is described in detail based on Drawings.

[0056] Drawing 1 is a block diagram showing the outline composition of the image processing device 1 concerning the 1 embodiment of this invention.

[0057] As shown in the figure, the image processing device 1 is constituted by the medium reading section 2, the data separation section 3, the directions part 4, the image memory 5, the additional information memory 6, the additional information database 7, the system control part 8, the printer I/F part 9, and the printing department 10. And the above-mentioned components 3-9 are mutually connected via the data bus 11, the medium reading section 2 is connected to the data separation section 3, and the printing department 10 is connected to the printer I/F part 9.

[0058] In this embodiment, although the printing department 10 considered it as one component of the image processing device 1, it makes not only this but the printer I/F part 9 the component of an image processing device, and its printing department 10 is good also as an isolated system of a different body.

[0059] The medium reading section 2 inserts the medium (for example, memory stick) which memorized the photographed image data recorded with the camera which carries GPS, and shot data, and reads the data in this medium.

[0060] The data separation section 3 divides the data read by the medium reading section 2 into the photographed image data and shot data which consists of latitude and longitude, such as

camera station information, bearing-of-the-exposure-axis information, up-and-down information, and field angle information, which are the component.

[0061]The directions part 4 directs all the operations, such as a display of the photographed image data separated by the data separation section 3, and a display of the photographed image data and the related attached data which were searched from the additional information database 7 mentioned later.

[0062]The image memory 5 is read by the medium reading section 2, and accumulates the photographed image data separated by the data separation section 3.

[0063]The additional information memory 6 accumulates the photographed image data and the related attached data which were searched from the additional information database 7 using the shot data separated by the data separation section 3.

[0064]Photographed image data and attached data with relation are put in a database according to the item of the camera station information which consists of latitude and longitude, bearing-of-the-exposure-axis information, up-and-down information, and field angle information, and the additional information database 7 records them.

[0065]The system control part 8 controls the data separation section 3, the directions part 4, the picture memory part 4, the additional information memory 6, the additional information database 7, and the printer I/F part 9.

[0066]The printer I/F part 9 transmits photographed image data and addition shot data to the printing department 10 for printing.

[0067]The printing department 10 prints the print data transmitted from the printer I/F part 9.

[0068]Thus, the control management which the ****(ed) image processing device 1 performs is as follows.

[0069]That is, the photographed image data and shot data which are memorized by this medium are first read from said medium by the medium reading section 2.

[0070]Next, the read data is divided into photographed image data and shot data by the data separation section 3.

[0071]Next, while the separated photographed image data is accumulated in the image memory 5, the separated shot data is analyzed by the system control part 8. Based on this analysis result, the additional information which has relation in latitude and longitude from the additional information database 7 is searched, and this additional information acquired by searching is accumulated in the additional information memory 6.

[0072]Next, while the directions part 4 directs a display layout based on the stored data, it checks to a user and the printing is directed to the printing department 10 via the printer I/F part 9.

[0073]Drawing 2 is a figure showing an example of the data format of the data memorized by the medium.

[0074]The photographed image data whose data in a medium is a taken image in the figure, It consists of shot data which consists of the environment at the time of taking a photograph, a position, and data about other photography, and one photographed image data and the shot data which consists of two or more photographing condition information corresponding to this photographed image data serve as a group of a couple, and is constituted. And to a medium, two or more sets of data of the group of this couple is saved.

[0075]Shot data comprises two or more data of a direction, latitude, longitude, an altitude, time, a field angle, up-and-down information, etc. These data is acquired by photographing condition recording systems, such as GPS.

[0076]Drawing 3 is a figure showing an example of the composition of a position information

acquiring system which used GPS.

[0077]As shown in the figure, GPS is a system device which receives the electric wave sent from the four satellites S1 arranged on the circumference orbit of the earth - S4, and measures the latitude of a measure point, longitude, an altitude, etc. By carrying the receiver for GPS, and each measuring device in a camera, the position information at the time of photography, direction information, up-and-down information, field angle information, etc. are acquirable. The acquired data is combined with photographed image data within a camera at the time of photography, and is recorded on said medium as conditions at the time of photography.

[0078]Drawing 4 is a block diagram showing the outline composition of the camera 20 for photographed-image-data photography.

[0079]As shown in the figure, the camera 20 The image pick-up part 21 and the GPS-data acquisition part 22, It is constituted by the time acquisition part 23, the direction primary detecting element 24, the image processing portion 25, the image memory 26, the imaging information treating part 27, the system control part 28, a field angle and an up-and-down information acquisition section 29, the medium writing part 30, and the data bus 31.

[0080]The image pick-up part 21 is incorporated as photographed image data which decomposed the candidate for photography into R(red) G(green) B (blue) which is the three primary colors of a color. Thus, the incorporated photographed image data is changed into the form in which digital processing is possible by the image processing portion 25, and is once accumulated in the image memory 26. The photographed image data of one sheet or two or more sheets is accumulated in the image memory 26, and, subsequently it is transmitted to the medium writing part 30 via the data bus 21.

[0081]Each information acquired by the GPS-data acquisition part 22, the time acquisition part 23, the direction primary detecting element 24, and a field angle and an up-and-down information acquisition section 29 is equivalent to said photographing condition information, and each information is transmitted to the film information treating part 27.

[0082]The film information treating part 27 arranges a data format, in order to transmit and record shot data on the medium writing part 30.

[0083]The medium writing part 30 records on a medium each data transmitted from the image processing portion 25 and the film information treating part 27, clarifying a dependency. The recorded medium is used by the image processing device 1 as mentioned above.

[0084]Drawing 5 is a figure for explaining an operation of field angle information, and as shown in the figure, even when the values (field angle) of field angle information differed and the same direction is photoed from the same position, the ranges photoed differ.

[0085]Drawing 6 is a figure for explaining an operation of up-and-down information.

[0086]At the time of photography, many of users who operate a camera may lean a camera vertically and horizontally, they may photo it, and as shown in the figure, even when inclination (value of up-and-down information) of a camera differed and the same position and the same direction are photoed, the ranges photoed differ.

[0087]Field angle information and up-and-down information are information required since it specifies that the taken image photoed by a different photographing condition photos the same subject.

[0088]Drawing 7 is a figure showing the 1st example of a picture that added additional information to the taken image and was created, (a) shows the taken image of the mountain which hid in clouds which is an example of the original taken image, and (b) shows the 1st created example of a picture.

[0089]As mentioned above, the shot data used as the group exists in the original photographed image data. This shot data is separated by said data separation section 3 from corresponding photographed image data, and the shot data after separation, It is analyzed by said system control part 8, and various information, such as two or more photographing condition information which constitutes this shot data, i.e., latitude, longitude, time, a direction, up-and-down information, and field angle information, is acquired. And based on two or more of these acquired photographing condition information, said additional information database 7 is searched and required information, including the image comparison copied from the same camera station or the illustration which imitated it, is acquired.

[0090]The 1st example of a picture of the above (b) shows the image comparison produced by doing in this way. This image comparison changes according to date information (it is summer, winter, is daytime, or is night?), up-and-down information, and field angle information.

[0091]By performing such processing, the additional information agreed and needed for a user's needs can be added easily.

[0092]Drawing 8 is a figure showing the 2nd example of a picture that added additional information to the taken image and was created, (a) shows the taken image of Tokyo Tower which is an example of the original taken image, and (b) shows the 2nd created example of a picture.

[0093]Like said drawing 7, based on two or more photographing condition information which constitutes shot data, the 2nd example of a picture of the above (b) searched the additional information database 7, and has collected and arranged the text data relevant to a taken image. The candidate for photography is more specifically specified from various information, such as latitude, longitude, time, a direction, up-and-down information, field angle information, etc. which constitute shot data, the text information about the candidate for photography is searched from the additional information database 7, and it is arranging and printing with the taken image.

[0094]Drawing 9 is a figure showing the 3rd example of a picture that added additional information to the taken image and was created, (a) shows the taken image of a lake which is an example of the original taken image, and (b) shows the 3rd created example of a picture.

[0095]Based on two or more photographing condition information which constitutes shot data, the 2nd example of a picture of the above (b) also searched the additional information database 7, and has collected and arranged the image data relevant to a taken image. [as well as drawing 7 and drawing 8] The candidate for photography is more specifically specified from various information, such as latitude, longitude, time, a direction, up-and-down information, field angle information, etc. which constitute shot data, the image information and picture information about the candidate for photography are searched from the additional information database 7, and it is arranging and printing with the taken image.

[0096]A layout is performed checking in said directions part 4.

[0097]Drawing 10 is a figure for explaining the flow of the processing which results in addition of the attached information from collation with a taken image and an image comparison to the taken image concerned, and (a) shows the photographed image data which photoed the mountain and the lake.

[0098]In the figure, it decides on a photographing location first from the position information recorded at the time of photography.

[0099]Next, the information on two or more tourist resorts which are near a photographing location from the additional information database 7 is listed as a candidate of the referred data for photography. For example, the candidate of some tourist resort information on the

photographing location neighborhood is listed like "Mt. Fuji", "Kawaguchiko", and "Yamanakako" as tourist resort information near position shot data. A user chooses from this inside the tourist resort information made into the purpose. By searching the image comparison about this from the tourist resort information for [selected] photography, and carrying out pattern matching of this image comparison and taken image, as shown in (e), to photographed image data, overwrite composition is carried out and additional information is printed.

[0100]Although position information was acquired by GPS, it may be made to use not only this but a tourist resort code in this embodiment.

[0101]Drawing 11 is a figure for explaining an operation of a tourist resort code.

[0102]Here, with a tourist resort code, Japan and the tourist resort of every corner of the earth are numbered, and additional information, such as a taken image, a related image comparison, or a reference text, can be efficiently searched as compared with the latitude longitude information by GPS.

[0103]It may be made to use numbered codes, such as a zip code which increase a digit number in recent years and has spread, instead of a tourist resort code.

[0104]Although it was made to build an additional information database in an image processing device, the additional information databases 45 and 47 are arranged to the exterior of the image processing device 41, and it may be made to acquire additional information via the network network 43 in this embodiment, as shown not only in this but in drawing 12.

[0105]In drawing 12, the image processing device 41 of the example of a graphic display is connected to other servers 34 and 36 via the network 43.

[0106]That is, unlike said image processing device 1, this image processing device 41 does not equip an inside with an additional information database, but transmits shot data to the external servers 34 and 36 via the network 43 instead. After the servers 34 and 36 search the databases 35 and 37, respectively and acquire additional information based on the received shot data, they return the additional information to the image processing device 41.

[0107]Since the processing which the image processing device 41 performs to this returned additional information is the same as that of it of said image processing device 1, that explanation is omitted.

[0108]Among drawing 12, although the printer 42 is used as the peripheral equipment by which direct continuation was carried out to the image processing device 41, it is good also as a network printer connected not only to this but to the network 43, and good also as one component of the device like said image processing device 1.

[0109]The storage which recorded the program code of the software which realizes the function of an embodiment mentioned above, Also when a system or a device is supplied and the computer (or CPU and MPU) of the system or a device reads and executes the program code stored in the storage, it cannot be overemphasized that the purpose of this invention is attained.

[0110]In this case, the program code itself read from the storage will realize the new function of this invention, and the storage which memorized that program code will constitute this invention.

[0111]As a storage for supplying a program code, a floppy disk, a hard disk, an optical disc, a magneto-optical disc, CD-ROM, CD-R, magnetic tape, a nonvolatile memory card, ROM6, etc. can be used, for example. A program code may be made to be supplied from a server computer via a communication network.

[0112]By executing the program code which the computer read, It cannot be overemphasized that it is contained also when the function of an embodiment which OS etc. which are working on a computer performed a part or all of actual processing, and the function of an embodiment

mentioned above is not only realized, but they mentioned above by the processing based on directions of the program code is realized.

[0113]After the program code read from the storage was written in the memory with which the function expansion unit connected to the expansion board inserted in the computer or the computer is equipped, It cannot be overemphasized that it is contained also when the function of an embodiment which performed a part or all of processing that CPU etc. with which the expansion board and function expansion unit are equipped are actual, based on directions of the program code, and was mentioned above by the processing is realized.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a block diagram showing the outline composition of the image processing device concerning the 1 embodiment of this invention.

[Drawing 2]It is a figure showing an example of the data format of the data memorized by the medium.

[Drawing 3]It is a figure showing an example of the composition of the position information acquiring system using GPS.

[Drawing 4]It is a block diagram showing the outline composition of the camera for photographed-image-data photography.

[Drawing 5]It is a figure for explaining an operation of field angle information.

[Drawing 6]It is a figure for explaining an operation of up-and-down information.

[Drawing 7]It is a figure showing the 1st example of a picture that added additional information to the taken image and was created.

[Drawing 8]It is a figure showing the 2nd example of a picture that added additional information to the taken image and was created.

[Drawing 9]It is a figure showing the 3rd example of a picture that added additional information to the taken image and was created.

[Drawing 10]It is a figure for explaining the flow of the processing which results in addition of the attached information from collation with a taken image and an image comparison to the taken image concerned.

[Drawing 11]It is a figure for explaining an operation of a tourist resort code.

[Drawing 12]It is a figure showing the example of composition which has arranged the additional information database to the exterior of an image processing device.

[Description of Notations]

2 Medium reading section

3 Data separation section

4 Directions part

5 Image memory

6 Additional information memory

7 Additional information database

8 System control part

9 Printer I/F part

10 Printing department

11 Data

